CHAPTER 9

LAND USE TRENDS

View along Market Street in the Central Business Area

INTRODUCTION

Land use data is the most basic and widely used information in the community planning process. An existing land use study consists of an inventory of the present land use within the corporate limits and in surrounding areas of potential growth. Also, maps and charts illustrating the land use pattern assist in the discussion of many everyday issues regarding community development.

For this Comprehensive Plan, Planning and Development Department staff first reviewed previous land use studies from 1986 and 1997. A new land use survey was then conducted in 2002-2003 by staff, with assistance from the Miami Valley Regional Planning Commission. The study used new aerial photographs and a “windshield survey” in the summer of 2002 to verify the use of each property. The land use information was then transferred to a computerized base map for calculation of acreage and display purposes.

ZONING

Zoning classifications necessarily reflect existing land uses. Zoning classifies each individual parcel of land into a specific district within a city. Each classification represents a list of permitted uses along with regulations for how the land can or cannot be used. Following a comprehensive plan, zoning regulations are enacted to protect property within the community from negative economic, physical, and social impacts of other neighboring land uses. Zoning regulations are also adopted to implement goals and objectives of a city.

As part of an effort to modernize regulations to meet the demands of the coming Twenty-first Century, the City of Troy adopted an entirely new Zoning Code effective January 2000. The zoning regulations can be found in text in the Troy Codified Ordinance and the classifications are mapped on the official zoning map.

Figure 9-1, at the end of this chapter, is a copy of the 2004 Zoning Map.

The City is divided into different zoning districts, which are as follows:

"FP" Flood Plain District

"A" Agricultural District

"A-R" Agricultural-Residential District

"R-1" Single-Family Residence District

"R-2" Single-Family Residence District

"R-3" Single-Family Residence District

“R-3-B” Single-Family Residence District

"R-4" Single-Family Residence District
"R-5" Single-Family Residence District
"R-6" Two-family Residence District
"R-7" Multiple-Family Residence District
"OR-1" Office-Residence District
"OC-1" Office-Commercial District
"B-1" Local Retail District
"B-2" General Business District
"B-3" Central Business District
"B-4" Highway Service Business District"
"M-1" Planned Industrial District
"M-2" Light Industrial District
"M-3" General Industrial District
"HP-0" Historic Preservation Overlay District
"HL-0" Historic Landmark Overlay District
"PD" Planned Development District
"WO" Wellhead Operation District and the
"WP" Well Field Protection Overlay District.

2002 LAND USE CLASSIFICATION

For the purposes of the Comprehensive Plan update, land uses were classified into ten basic categories, as follows:

Agricultural / Vacant / Undeveloped**:** Areas free of urban development, including land that is used for farming and other agricultural purposes. Vacant land also refers to land that is not currently classified in any of the other categories listed below.

Single-Family Residential**:** Property used for an unattached structure housing a single dwelling unit.

Two-Family Residential**:** Property used for two dwelling units within a structure.

Multi-Family Residential**:** Property used for one or more structures housing a total of three or more dwelling units.

Commercial / Office / Service / Parking**:** Property that involves the retailing of consumer goods and services such as stores, restaurants, commercial

businesses, etc., which deals with providing personal and business services. This property classification also includes professional offices and business office services. Parking includes for profit stand-alone uses, as well as parking accessory to commercial and office uses.

Industrial**:** Property used for manufacturing and processing establishments, warehouses, bulk distribution, or storage facilities.

Educational / Institutional**:** Property used for governmental purposes and those providing for the educational, social, cultural, religious, and health needs of the community.

Open Space**:** Property used primarily for recreational purposes, whether it is public as in the case of community parks and land preserves, semi-public as in the case of institutional facilities, or private as in the case of camps and retreats.

Religious: Property dedicated for a permanently located church, cathedral, synagogue, temple, mosque, or other place dedicated to religious worship and permitted accessory uses.

Cemetery**:** Public or private property dedicated as a place of burial.

Troy's 2002 Land Use is shown on Figure 9-2, which is included at the end of this chapter.

EXISTING TROY LAND USE PATTERN

Table 9-1, on the next page, shows acreage totals by land use category for the incorporated area of Troy, the percentages of developed land versus undeveloped land, and the available historical totals of each specific land use type.

As of 2002, Troy's land use area was approximately 75% developed, with 5,395 acres developed and 1,793 acres remaining vacant or in agricultural use. The total area of the City has more than tripled since 1960; the developed area has grown nearly the same during this period. This significant increase reflects the attraction of Troy's location for urban development. Additional discussion regarding land consumption rates is found later in this chapter.

As Troy has grown, many of the newly developed areas were annexed to the city in order to obtain municipal water and sanitary sewer services. For this reason, Troy has generally annexed adequate land area to maintain a relatively constant ratio of developed and undeveloped acreage. Past annexations are shown on Figure 9-3, at the end of this chapter. Individual annexations are grouped by decade in different colors, to facilitate comparisons to population figures from the Decennial Census reports.

	1960 LAND USE			1970 LAND USE			1986 LAND USE			2002 LAND USE		
	Acres	**Percent Developed Area**	**Percent Total Area**	**Acres**	**Percent Developed Area**	**Percent Total Area**	**Acres**	**Percent Developed Area**	**Percent Total Area**	**Acres**	**Percent Developed Area**	**Percent Total Area**
RESIDENTIAL	**691**	**42.9%**	**30.5%**	**1,121**	**46.7%**	**29.2%**	**1,291**	**41.6%**	**26.5%**	**1,916**	**35.5%**	**26.7%**
Single-Family	640	39.7%	28.2%	1,016	42.3%	26.5%	1,145	36.7%	23.5%	1,636	30.3%	22.8%
Multi-Family	11	0.7%	0.5%	105	4.4%	2.7%	89	2.9%	1.8%	186	3.4%	2.6%
Two-Family	40	2.5%	1.8%				57	1.8%	1.2%	94	1.7%	1.3%
3+ Family												
COMMERCIAL	**82**	**51%**	**3.6%**	**131**	**5.5%**	**3.4%**	**196**	**6.3%**	**4.0%**	**400**	**7.4%**	**5.6%**
INDUSTRIAL	**131**	**8.1%**	**5.8%**	**177**	**7.4%**	**4.6%**	**370**	**11.9%**	**7.6%**	**855**	**15.8%**	**11.9%**
PUBLIC AND SEMI-PUBLIC	**254**	**15.8%**	**11.2%**	**326**	**13.6%**	**8.5%**	**469**	**15.1%**	**9.6%**	**1,194**	**22.1%**	**16.6%**
Institutional							157	5.1%	3.2%	371	6.9%	5.2%
Churches							44	1.4%	0.9%	62	1.1%	0.8%
Cemeteries							54	1.7%	1.1%	102	1.9%	1.4%
Recreation							189	6.1%	3.8%	659	1.2%	9.2%
Utilities							25	0.8%	0.5%			
RIGHT-OF-WAY	**454**	**28.1%**	**20.0%**	**643**	**26.8%**	**16.8%**	**468**	**21.2%**	**12.5%**	**1,030**	**19.0%**	**14.3%**
TOTAL DEVELOPED	**1,612**	**100.0%**	**71.1%**	**2,398**	**100.0%**	**62.5%**	**2,208**	**100.0%**	**59.0%**	**5,395**	**100%**	**75.1%**
AGRICULTURE & VACANT	**655**		**28.9%**	**1,437**		**37.5%**	**1,536**		**41.0%**	**1,793**		**24.9%**
TOTAL	**2,267**		**100.0%**	**3,835**		**100.0%**	**3,744**		**100.0%**	**7,188**		**100.0%**

Table 9-1 Acreage Totals by Land Use 1960-2002

Comparing land uses from 1960 to 2002, undeveloped land has been maintained in the 25% to 37% range. The agricultural and vacant areas of Troy are primarily found proximate to and west of Interstate Route 75 and along the western edges of the City. In general, the developed parts of Troy are spread among the central (downtown), north, south, east and near- west sections of the city.

A higher concentration (density) of uses are found around the original town center east of Interstate Route 75, and a more scattered pattern of less dense uses are found west along the freeway. The three most extensive land uses are single-family residential, parks and recreation, and industrial.

Table 9-1 also shows that residential uses are the most predominantly developed land use, occupying 1,916 acres and accounting for approximately 27% of the overall Troy land area. Residential land uses comprised almost 36% of the developed land area in 2002. These residential areas are primarily located within and immediately surrounding the Downtown Troy area, on the northeast side of I-75 just west of Downtown Troy, and in the northeast area across the Great Miami River. More recent residential development in the past decade has started to occur west of I-75, along both State Routes 41 and 55.

About 1,225 acres of residential land has been developed in the span between 1960 and 2002. Approximately 85% of the developed residential land in 2002 was categorized as single-family residential. Although lots are generally small and the density is the highest in the central areas of the community, single-family housing has remained the dominant use in the areas surrounding downtown. Comparatively high densities are also found in the residential areas further south and east of Downtown Troy.

Multi-family residential uses (two-family and multi-family housing) occupy 280 acres, which is 3.9% of the overall Troy land area and 5.1% of its developed land area. The majority of developed multi-family land is in the form of three or more family residences generally dispersed south, east, and west of downtown.

Commercial land uses occupied approximately 400 acres of land in 2002, which is 5.6% of the overall Troy land area and 7.4% of the developed land area. There was an increase of 318 acres of commercial land between 1960 and 2002.

The primary areas of commercial, retail, and office land uses are located in Downtown Troy and the areas adjacent to or near Troy's two primary I-75 interchanges. In the past decade, several national chain retailers and restaurants have opened Troy stores. Most of these have been located near each other and I-75. Smaller concentrations of local commercial uses are found farther south of downtown and in the northeast part of the city.

As was shown in Table 9-1, industrial uses occupied 855 acres in 2002, accounting for 11.9% of the total area of the total city area and 15.8% of the developed area. Of the 724 acre increase between 1960 and 2002, the most (485 acres) occurred between 1986 and 2002 when the City saw an explosion of new industry as well as expansion of existing industrial companies. This reflects the success of the community's strong economic development efforts, which have grown the local economy even while older manufacturing sectors have started to decline.

Much like commercial development in Troy, most of the industrial growth has been near Troy's two busiest I-75 interchanges. Smaller clusters of older, "traditional" industrial uses are found south of Downtown Troy downtown near the existing rail road line.

Public and semi-public land uses occupied 1,194 acres in 2002, which is 16.6% of the total land area of Troy and 22.1% of the developed land. Public and semi-public uses include institutional and educational uses such as churches, schools, cemeteries, municipal facilities, open space/parks, as well as utilities. The percentage increase may be attributable to increasing demands by modern society for more services and more convenience in existing services. Some churches, for example, have built large new facilities to replace the smaller, neighborhood-style churches of the past.

The majority of recreational uses can be found along the north and south sides of the Great Miami River and in the northeast part of the City. Government uses are primarily found downtown, while schools and utilities are spread throughout the City, the former usually near Troy's various residential neighborhoods.

Rights-of-way occupied 1,030 acres in 2002, which is 14.3% of the total land area and 19.0% of the developed land area of the City. This figure includes the rights-of-way of public streets, alleys, sidewalks, and rail. Since 1960, 576 acres of right-of-way has been added to keep up with residential, commercial and industrial growth.

LAND USE WITHIN STUDY AREA

Within the study area, land use outside of Troy is composed mostly of single family residential and agricultural uses. The semi-rural areas with the most residential activity are immediately south and southwest of the City. They are predominately major subdivisions, with some municipal utility services. Additional, smaller plats can be found farther away from the existing northern and eastern corporate limits, and are usually developed with private wells and septic systems. Farms and agricultural uses are spread throughout the planning area.

LAND ABSORPTION RATE

A land absorption rate is the number of acres of land used for a particular purpose for a given population. Knowledge of the land absorption rate is needed in order to project the amount of land needed for various uses in the future. Many factors play a role in the rate of land absorption. Household size, choice of housing type (single-family/multi-family), and the availability of public utility services affect the residential land absorption rate.

Nationally, household sizes have been decreasing, causing more housing units to be built for an equal population size. Suburban and rural housing, with large lot sizes for landscaping and/or on-site water and sewer systems, has been the choice over smaller and more compact central city lots. New commercial uses have been locating in one-story shopping centers and "big box" buildings, both with landscaping and large parking areas, rather than the compact centers of older areas, which were designed for pedestrians from nearby neighborhoods. Industrial uses have also located on the fringe of urban areas where relatively cheap land has allowed more expansive horizontal layouts with extensive parking.

Also, more outdoor public and semi-public uses such as golf courses, churches, schools, and government service centers have been built to accommodate society's increasing leisure, social, educational, and service needs. This trend to locate in more spacious surroundings than in the past, and a need for additional recreational land will maintain the demand for a substantial additional urban development.

Table 9-2 shows Troy's land absorption rates at several different times, compared to nearby Tipp City's rates at similar periods. The comparison is made to Tipp City, because of its close proximity and because that community has grown much more than Piqua, which is farther away from the metropolitan area's center in Dayton.

LAND USE TYPE	TROY				TIPP CITY			
	1960	1970	1986	2002	1967	1988	1995	2002
Residential	51	65	66	86	62	76	109	93
Commercial	6	8	10	18	5	9	14	14
Industrial	10	10	19	38	10	25	50	51
Public Institution	19	19	24	53	10	39	51	73
Right-of-way	33	37	39	46	29	N/A	71	58
Total Developed	118	140	159	241	115	149	295	290

Table 9-2 Troy Land Absorption Rate 1960-2002 compared to Tipp City 1967-2002

The developed land absorption rate for Troy has more than doubled (118 to 241) from 1960 to 2002. The greatest proportional rate change has been in the Public/Institutional category, increasing from 19 to 53, and the Industrial category, increasing from 10 to 38. Residential had the greatest number increase (35) during the 1960 to 2002 period.

Compared to Tipp City, Troy had somewhat lower land absorption percentages and number increases for all land use categories from 1967 to 2002. The most similar is the commercial category (5 to 14 for Tipp City and 6 to 18 for Troy). The greatest difference is Public/Institutional (10 to 73 and 19 to 53, respectively). This can be attributed to Tipp City's past lack of growth and more recent attraction to people wishing to relocate from Montgomery County.

Population projections and land absorption rates can be used to estimate additional acreage needed for each land use category. Population multiplied by the land absorption rate determines the additional acreage needed. Table 9-3 shows the additional acreage Troy is projected to need, by land use type, in five-year increments through 2020.

	HIGHER GROWTH SCENARIO					
	Residential	Commercial	Industrial	Public & Institutional	Right-of-Way	Total Developed
2002 to 2005	110	24	40	55	54	283
2005 to 2010	103	22	46	64	55	290
2010 to 2015	104	22	46	64	56	292
2015 to 2020	130	27	57	80	69	363
2002 to 2020	447	95	189	263	234	1,228

	LOWER GROWTH SCENARIO					
	Residential	Commercial	Industrial	Public & Institutional	Right-of-Way	Total Developed
2002 to 2005	14	4	0	0	2	20
2005 to 2010	76	16	34	47	41	214
2010 to 2015	73	15	32	45	39	204
2015 to 2020	100	21	44	62	54	281
2002 to 2020	263	56	110	154	136	719

Land use projections generated by applying the 2002 Land Absorption Rate to population projections.

Table 9-3 Additional Acreage Estimates through 2020

The Higher Growth Scenario assumes that Troy's population will increase at a rate proportionate to the change between 1910 and 2000. The Lower Growth Scenario assumes that Troy's year 2000 percentage of the County's population (22.3%) remains the same for 2000-2020.